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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/761,043	01/15/2001	Shigetoyo Matsumura	1581.29	4250

24040 7590 09/11/2002

MASON & ASSOCIATES, PA  
17757 US HWY 19 N.  
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CLEARWATER, FL 33764

EXAMINER

METZMAIER, DANIEL S

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 09/11/2002

4

Please find below and/or attached an Office communication concerning this application or proceeding.

7c-11

<b>Office Action Summary</b>	<b>Application N .</b>		<b>Applicant(s)</b>	
	09/761,043		MATSUMURA ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Daniel S. Metzmaier		1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspond nce address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 January 2001 and 06 March 2001 .
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All   b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3</u> . | 6) <input type="checkbox"/> Other: _____                                     |

### **DETAILED ACTION**

Claims 1-8 are pending. The Priority Papers filed January 21, 2001 have been entered as Paper No. 2. The Information Disclosure Statement filed March 6, 2001 has been entered as Paper No. 3.

#### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Information Disclosure Statement***

2. It is noted that only the first page of each of the Japanese references cited in applicants' Information Disclosure Statement have been provided. Regarding the priority noted on the face of each of the references, attention is directed to item [63] on the face of Romberger et al, US 5,230,833, and corresponding application numbers.

#### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what applicants intend by the limitation "lowered metal silica produced from silicate ester". It is noted applicants employ (examples) a commercial product (Quartron PL-10, made by Fuso Cemical Co., Ltd.) as the high purity silica.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Payne et al, US 3,860,431. Payne et al (column 4, lines 50-66 and claims) discloses silica sols reading on the instant claims. The numerical range claimed reads on the range disclosed. The number of species of biocides disclosed in the Payne et al references totals four and the use of hydrogen peroxide as claimed is deemed to be anticipated by the limited number of species.

***Claim Rejections - 35 USC § 103***

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Romberger et al, US 5,230,833, in view of Payne et al, US 3,860,431. Romberger et al

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discloses low metal content polishing slurries for use in silicon wafer polishing.

Romberger et al (column 5, lines 64 to column 6, line 10) discloses low metal content silica may be made from silicate esters. Romberger et al (column 3, line 63 to column 4, line 3) discloses the conventional use of hydrogen peroxide as a biocide agent in silica aquasols employing polyhydric alcohols to eliminate or control microbial growth.

Romberger et al differs from the claims in the instantly claimed and/or preferred pH, the explicit disclosure of the metal content of the sols, and the preferred use of silica produced from silicate esters.

Payne et al (column 4, lines 50-66 and claims) discloses silica sols reading on the instant numerical range claimed for use of hydrogen peroxide as a biocide. The number of species of biocides disclosed in the Payne et al references totals four and the use of hydrogen peroxide as claimed is deemed to be anticipated by the limited number of species.

Both references teach silica sols having pH values of about 8.5. Payne et al teaches anionic sols, which would have a alkaline pH as shown in table 1.

Romberger et al teaches colloidal silica compositions having metal concentrations of less than ppm level but does not specifically define the minimum or specific amounts of the metal concentrations. The use of silica sols produced by silicate esters, otherwise known as silicon alkoxides is conventionally known to provide silica particles having a low metal content due to the absence of metals in the alkoxide starting materials and the hydrolysis media. Said alkoxides are also conventionally known to be less cost effective.

These references are combinable because they teach preserving colloidal silica. It would have been obvious to one of ordinary skilled in the art at the time of applicants invention to employ the minimum pH required in the polishing compositions of Romberger et al for the advantage of reducing washing steps to remove excess alkaline materials in post processing. The pH values are sufficiently close (8.0 to 8.5) that a determination of the minimum pH for the Romberger et al compositions would have been an obvious variation of the pH disclosed in the Romberger et al reference.

It would have been obvious to one of ordinary skilled in the art at the time of applicant's invention to employ the colloidal silica from silicate esters as an advantageous low metal containing silica contemplated in the Romberger et al reference.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (703) 308-0451. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Dawson can be reached on (703) 308-2340. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

A handwritten signature in black ink, reading "Daniel S. Metzmaier". The signature is fluid and cursive, with the first name "Daniel" and last name "Metzmaier" clearly distinguishable.

**Daniel S. Metzmaier**  
**Primary Examiner**  
**Art Unit 1712**

DSM  
September 9, 2002